

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

REC'D 15 JUN 2004



WIPO PCT

Applicant's or agent's file reference RI-406	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP 03/07597	International filing date (day/month/year) 14.07.2003	Priority date (day/month/year) 15.07.2002	
International Patent Classification (IPC) or both national classification and IPC C08L77/12			
Applicant ROCKWOOL INTERNATIONAL AS et al			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 12.02.2004	Date of completion of this report 11.06.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Kairi, M Telephone No. +49 89 2399-8672 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/07597**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

Description, Pages

1-12 as originally filed

Claims, Numbers

1-16 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/07597**

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-16
	No: Claims	
Inventive step (IS)	Yes: Claims	1-16
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Article 33(2) PCT

The prior art does not disclose an aqueous binder composition comprising a binder component obtainable by reacting at least one alkanolamine with at least one carboxylic anhydride.

Article 33(3) PCT

The document WO-A-00/39212 (D1) discloses biodegradable polymer materials comprising a polysaccharide and at least two other polymers of different crystallinity which are not fully miscible, at least one of the polymer components preferably being of high crystallinity (Abstract). D1 is based on the surprising finding that molded articles of layered structure and increased environmental stability may be obtained by blending a polysaccharide with a mixture of at least two biodegradable high-molecular polymers (page 8, last paragraph). Such molded articles have a longer service life when exposed to humid goods (page 10, first paragraph).

The document DE-A-10018936 (D2) concerns polyetheresteramides suitable for the production of thin films having good mechanical properties (Abstract). These polyetheresteramides represent high-molecular polymers (Examples 1-3) which are not water-soluble.

The subject-matter of the present invention differs from D1 and D2 in that it concerns an aqueous binder composition comprising a binder component obtainable by reacting at least one alkanolamine with at least one carboxylic anhydride.

The object of the present invention is to provide a formaldehyde-free aqueous binder composition which is particularly suitable for bonding mineral fibers, which exhibits excellent binding characteristics, in particular, suitable curing speed and strength, has good water solubility and dilutability and may be economically produced from less expensive materials.

The solution provided is non-obvious, since none of the prior art contains a hint of an aqueous binder composition and said prior art points away from the present invention by being concerned with high-molecular polymers having increased water resistance (D1) or being not water-soluble (D2).